

REMARKS

The application has been carefully reviewed in light of the Office Action dated August 22, 2005. Claims 1, 2, 5, 6, 9, 10, 13 to 18 remain in the application. Claims 19 to 21 have been canceled. Claims 1, 5, 9, 10 and 13 to 18 have been amended and Claims 1, 5 and 9 are the independent claims herein. Reconsideration and further examination are respectfully requested.

Claims 1, 2, 5, 6, 9, 10, and 13 to 21 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,122,403 (Rhoads). Reconsideration and withdrawal of this rejection are respectfully requested.

The present invention generally concerns digital watermarking of images for purposes such as preventing unlawful copying. Among its many features, the present invention involves (i) recording image data and specific information on different areas of the recording medium, (ii) reproducing the image data and the specific information from the different areas of the recording medium, and (iii) in accordance with whether a first or a second process is selected by a user, providing or avoiding providing the specific information and image data reproduced from the recording medium to an embedding unit.

In conventional systems, electronic watermarks may be embedded in image data in the redundant and main data portions of the image as noise. However, this leads to deterioration of the image quality. Further, if a smaller watermark is used to attempt to reduce this deterioration, the watermark can be unintentionally erased during file processing.

The present invention addresses these shortcomings by recording the image data and the specific information on different areas of the recording medium, and

reproducing the image data and the specific information from the different areas of the recording medium. Additionally, the invention provides or avoids providing the specific information and image data reproduced from the recording medium to an embedding unit in accordance with whether a first or a second process is selected by a user.

Referring specifically to claim language, independent Claim 1 as amended is directed to an image capture device. The device includes an image capture unit adapted to capture images, a specific information generation unit adapted to generate specific information for image data of the captured image, and a recording unit adapted to record the image data and the specific information on a recording medium. The image data and the specific information are recorded on different areas of the recording medium. The device further includes a reproducing unit adapted to reproduce the image data and the specific information from the different areas of the recording medium, and an embedding unit adapted to embed the specific information reproduced from the recording medium into the image data reproduced from the recording medium using a digital watermarking technique. The device also includes a control unit adapted to provide the specific information reproduced from the recording medium and the image data reproduced from the recording medium to the embedding unit if a first process is selected by a user, and avoid providing the specific information reproduced from the recording medium and the image data reproduced from the recording medium to the embedding unit if a second process is selected by the user.

Independent Claim 5 as amended is directed to a method used in an image capture device. The method includes capturing an image, generating specific information for image data of the captured image, and recording the image data and the specific

information on a recording medium. The image data and the specific information are recorded on different areas of the recording medium. The method also includes reproducing the image data and the specific information from the different areas of the recording medium and embedding the specific information reproduced from the recording medium into the image data reproduced from the recording medium using a digital watermarking technique. The method additionally includes providing the specific information reproduced from the recording medium and the image data reproduced from the recording medium to an embedding unit which performs the embedding step if a first process is selected by a user, and avoiding providing the specific information reproduced from the recording medium and the image data reproduced from the recording medium to the embedding unit if a second process is selected by the user.

Independent Claim 9 as amended is directed to a storage medium storing a program used in an image capture device. The program is capable of performing the steps of capturing an image, generating specific information for image data of the captured image, and recording the image data and the specific information on a recording medium. The image data and the specific information are recorded on different areas of the recording medium. The program also performs the steps of reproducing the image data and the specific information from the different areas of the recording medium and embedding the specific information reproduced from the recording medium into the image data reproduced from the recording medium using a digital watermarking technique. The method additionally includes providing the specific information reproduced from the recording medium and the image data reproduced from the recording medium to an embedding unit which performs the embedding step if a first process is selected by a user,

and avoiding providing the specific information reproduced from the recording medium and the image data reproduced from the recording medium to the embedding unit if a second process is selected by the user.

The applied art, namely Rhoads, is not seen to suggest or disclose the features of the present invention. In particular, Rhoads is not seen to disclose or suggest at least the features of (i) recording the image data and the specific information on different areas of the recording medium, (ii) reproducing the image data and the specific information from the different areas of the recording medium, and (iii) in accordance with whether a first or a second process is selected by a user, providing or avoiding providing the specific information and image data reproduced from the recording medium to an embedding unit.

As understood by Applicants, Rhoads is seen to disclose a program which allows a user to detect and embed watermarks. A user may select an option to embed a watermark and may be prompted to enter in preferences for the watermark.

Page 3 of the Office Action asserts that Rhoads (Column 69, lines 50 to 60 and line 66) discloses a recording unit adapted to record the image data and the specific information on a recording medium, specifically the recording medium in the computer that stores the image file. Page 3 of the Office Action further asserts that Rhoads (Column 69, lines 57 to 67 and Column 70, lines 1 to 45) discloses a reproducing unit adapted to reproduce the image and the specific information from the recording medium, specifically the computer program that recovers a watermarked image.

However, Rhoads is not seen to disclose or suggest recording the image data and the specific information on different areas of the recording medium or reproducing the image data and the specific information from the different areas of the recording medium.

Specifically, the portions of Rhoads referred to as disclosing a recording unit are seen to simply disclose a general process for adding a watermark, such as scanning an image, starting a program that supports watermarking, and selecting a menu item to add a watermark, as well as a feature for adding a copyright symbol to a status bar if a watermark is detected by the computer. See Rhoads, Column 69, lines 50 to 60 and 66. Moreover, while the computer memory of Rhoads may store a captured image file, Rhoads is not seen to suggest that the image data and specific information data are stored in any particular fashion, much less on different areas of the recording medium. In fact, Rhoads discusses how many times a watermark can be repeated *through* an image, which is seen to suggest that Rhoads, like the conventional art, does not record the image data and the specific information on different areas of the recording medium. See Rhoads, Column 69, lines 8 to 11. Additionally, the copyright feature cited by the Office Action does not provide information specific to any image, as it is just a signal provided to the user to indicate that a watermark is present in the image. See Rhoads, Column 69, lines 62 to 67 and Column 70, line 1.

Furthermore, the portions of Rhoads cited as disclosing a reproducing unit are seen to simply disclose a process for detecting watermarks that have been embedded into an image, including an automatic read option or a “read watermark” menu option, which can then be used to check the source of the image or portions thereof. See Rhoads, Column 69, lines 57 to 67 and Column 70, lines 1 to 45. However, reading the watermark from a watermarked image is not the same as reproducing a watermark from a recording medium. Rhoads makes no mention of reproduction of specific information at all, much less from a different area of memory in the recording medium than that of the image data.

In addition, Rhoads is not seen to disclose the feature of providing or avoiding providing the specific information and image data reproduced from the recording medium to an embedding unit based on whether a first or second process is selected by the user.

Page 7 of the Office Action asserts that Rhoads (Column 73, lines 45 to 50) discloses selecting a first process or a second process in accordance with a user's instruction, wherein selecting the first process causes the unit to embed the specific information and selecting the second process causes the embedding unit to avoid embedding the specific information.

However, the portions of Rhoads cited by the Office Action refer to the process of embedding the actual watermark, rather than Applicant's feature of providing or avoiding providing the reproduced specific information and image data to the embedding unit. See Rhoads, Column 73, lines 45 to 50. Moreover, this portion of Rhoads seems to imply that the "specific information" embedded in this part of the process is not reproduced from a recording medium at all, and rather is *input* by the user. For example, the "OK" and "cancel" buttons referred to in the portion cited by the Office Action are part of a "Dialog Box" shown in Figure 48. See Column 73, lines 27-50. Other preferences that may be input in the Dialog Box, which the Office Action refers to on Page 6 as specific information, include a Creator ID, whether the use of the image is restricted or not, the durability or visibility of the watermark, and whether the image contains adult content. See Rhoads, Figure 48 and Column 73, lines 27 to 50.

Clearly, however, if this information is input by the user at this stage, it is not being reproduced from a recording medium at all, much less according to a feature

which allows the user to decide whether to do so or not. Furthermore, the information input at this stage of Rhoads is not understood to be information specific to the image (i.e. specific information), as it is seen to concern the identification of the creator and attributes of the watermark itself, rather than anything to do with the image in particular.

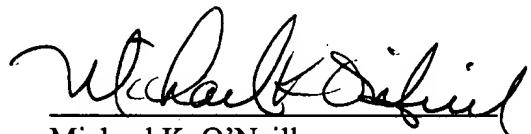
In view of the foregoing amendments and remarks, Rhoads is not seen to suggest or disclose at least the features of (i) recording the image data and the specific information on different areas of the recording medium, (ii) reproducing the image data and the specific information from the different areas of the recording medium, and (iii) in accordance with whether a first or second process is selected by a user, providing or avoiding providing the specific information and image data reproduced from the recording medium to an embedding unit.

Accordingly, independent Claims 1, 5 and 9 are believed to be allowable over the applied references. Reconsideration and withdrawal of the § 102(e) rejections of Claims 1, 5 and 9 are therefore respectfully requested.

The other claims in the application are each dependent from the independent claims discussed above and are therefore believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should be directed to our address given below.

Respectfully submitted,



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